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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,461	11/28/2001	Howard B. Sosin	2002832-0016	2420
7590 04/22/2005			EXAMINER	
Brenda Herschbach Jarrell, Ph.D. Choate, Hall & Stewart Exchange Place 53 State Street Boston, MA 02109			LEGESSE, NINI F	
			ART UNIT	PAPER NUMBER
			3711	
DATE MAILED: 04/22/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

*Supplemental*  
**Office Action Summary**

Application No.

09/996,461

Applicant(s)

SOSIN, HOWARD B.

Examiner

Nini F. Legesse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 November 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-24 and 26-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-24 and 26-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

The Final Office Action sent to Applicant on 03/10/05 is withdrawn. Since better references have been found, the following new Final Office Action is provided in response to Applicant's reply of 11/19/04.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 20 and 26-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over Benton et al. (US Patent No. 3,872,050) in view of Shibantai et al. (US Patent No. 4,048,359).

**With regards to claim 20**, Benton teaches the fibers (see abstract and col. 2, lines 53+), but not substrate. Shibantai teaches the well-known concept of using these types of fibers in carpets and mats (see column 2, lines 66+). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Benton's device with a substrate as taught by Shibantai in order to provide a device that reversibly change color.

**With regards to claim 26**, see column 3, lines 15-17 of Benton.

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**With regards to claim 27**, Benton discloses fibers that include chromogen that is not coated on the surface of the fibers (see column 3, line 35).

**With regards to claim 28**, Benton discloses a stress chromic (see column 3, lines 15-17).

**With regards to claim 29**, Benton discloses wherein the chromogen is both stress chromic and thermochromic (see column 3, lines 15+, column 6, lines 45+).

**With regards to claim 30**, see claim 29.

**With regards to claim 31**, the liquid crystals of Benton are polymeric (see abstract).

**Claims 21-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 20 above, and further in view of Davies et al. (US Patent No. 6,330,730).

**With regards to claim 21**, Davis teaches another liquid crystal very similar to the teachings of Benton wherein this material is poly diacetylene (see column 2, lines 31+).

One of ordinary skill in the art would have expected that substitution of the Benton element with the Davis would have resulted with the same function of changing color.

**With regards to claim 22**, see above.

**With regards to claim 23**, Benton's element comprises a coating of Poly diacetylene surrounding a core of a different material (see column 5, lines 65+).

**With regards to claim 24**, the change in color of one fiber or the multiple fibers is indicia, which is capable of use as claimed (see MPEP 2111 and 2112).

**Claims 20, and 26-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki (JP 411004927) in view of Shibantai and Benton.

**With regards to claim 20**, Aoki discloses a golf mat with fibers (3) wherein the mat changes color when struck by a golf club (see the abstract). However, Aoki does not explicitly state the use of polymer fibers that respond to an elastic elongation by changing from a relaxed color to an elongated color. However, it is already known in the art to use color changing chromic fibers in a carpet/mat environment as is evidenced by the previously discussed Shibantai reference. With this teaching at hand, Benton teaches the use of polymer fibers (see abstract) and he also teaches that the fibers respond to an elastic elongation by changing from a relaxed color to an elongated color (see column 8, lines 7-14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Aoki device with the elements of Benton in order to provide a durable color-changing device.

**With regards to claim 26**, see column 3, lines 15-17 of Benton.

**With regards to claim 27**, Benton discloses fibers that include chromogen that is not coated on the surface of the fibers (see column 3, line 35).

**With regards to claim 28**, Benton discloses a stress chromic (see column 3, lines 15-17).

**With regards to claim 29**, Benton discloses wherein the chromogen is both stress chromic and thermochromic (see column 3, lines 15+, column 6, lines 45+).

**With regards to claim 30**, see claim 29.

**With regards to claim 31**, the liquid crystals of Benton are polymeric (see abstract).

**Claims 21, 22, and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 20 above, and further in view of Davies (US Patent No. 6,330,730).

Aoki in view of Benton fail to teach the use of poly diacetylene fibers. However, Davis teaches another liquid crystal very similar to the teachings of Aoki and Benton wherein the material is poly diacetylene (see column 2, lines 31+). One of ordinary skill in the art would have expected that substitution of the Aoki's or the Benton's element with the Davis element would have resulted with the same function of changing color.

**Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 20 above, and further in view of Florian (US Patent No. 6,077,169).

Aoki in view of Benton fail to show indicia for the position of a golf ball. Florian teaches a golf mat (16) that has indicia for the position of a golf ball (30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Aoki device with an indicia to indicate the position of a ball as taught by Florian in order to provide an instructional device that would assist a golfer.

### ***Response to Arguments***

Applicant's arguments with respect to the claim 20-24 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nini F. Legesse whose telephone number is (571) 272-4412. The examiner can normally be reached on 9:30 AM - 6:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Vidovich can be reached on (571) 272-4415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NFL

03/24/05

  
GREGORY VIDOVICH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700